

## ***Interactive comment on “The Climate of the Common Era off the Iberian Peninsula” by Fátima Abrantes et al.***

### **Anonymous Referee #1**

Received and published: 12 September 2017

The paper of Abrantes et al.: “The Climate of the Common Era off the Iberian Peninsula” is discussing five sites distributed along the Iberian margin spanning the last 2000 years. A multi-proxy approach was chosen here where alkenone derived Sea Surface Temperature (SST) reconstructions were compared to on-land precipitation given by higher plant n-alkanes and pollen data.

In general, the records provide useful information about climate variability offshore the Iberian Peninsula over the common area. However, I feel the paper is too long and partly confusing as the message is not clear. It is not evident to me, how in particular the changes in the ocean temperature observed would drive or not directly precipitation changes on land? I would suggest that the author should shorten the paper to the main findings and concentrate on the question: what is the main message of this paper to

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the community?

The paper should definitely be proof read by a native English speaker, as many parts of the paper are very hard to understand lacking a sentence structure and words.

I struggle with figure 4, 5 and 6 as these contain way too many plots and I find it hard to see the link between different data sets and their correlation as described in the text.

Age model: The 3 new age models of the cores should be shown as an age-depth plot additionally to the table with the 14C dates. Moreover, a Bayesian age depth model should be performed to better constrain age uncertainties.

Some specific comments below: Page 1 line 18: The Iberian Peninsula, at North Atlantic mid-latitude and the western extreme of the European continent, is a relevant area for climate reconstructions. – Rephrase sentence and what makes it a relevant area for climate reconstructions? Line 25: Is that even significant as the calibration error on alkenone SST is 1.5 C? Schouten et al., 2013, <http://dx.doi.org/10.1016/j.orggeochem.2012.09.006>

Page 2 Line 2: change to Medieval climate anomaly Line 5: what does particular mean? Line 7: “The intense precipitation/ flooding and warm winters but cooler intermediate seasons (spring and fall) observed for the early MWP imply the interplay of internal oceanic variability with the three atmospheric circulation modes, North Atlantic Oscillation (NAO), East Atlantic (EA) and Sandinavia (SCAND) in a positive phase”.- how would the interplay of these 3 patterns cause the observed pattern? Line 15: rephrase-sentence like that makes no sense Line 32: restructure Line 33: delete Medieval Warm Period (MWP)

Page 3: Line 27: rephrase bad English

Page 4 Line 23-26: superficial statement needs more explanation Line 30: change to: For that we combine the above mentioned published records with 3 new records located along the Iberian margin from 42° N to 36 °N, covering the last 2,000 yr



Page 6: Line 4: Any additional proof that the cores are tracing river input despite pollen like BIT index

Page 12 Line 17-18: not clear Line 32: what does that mean important decrease?

Page 13 Line 15: what does the N stands for? Line 19: rephrase

Page 17 Line 20: Specific climate conditions – unclear what does specific indicate?

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Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2017-84>, 2017.

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